

OFFICE MEMORANDUM

TO : Dean Meyer, Group Leader, H-1

DATE: 1/17/63

FROM : John Enders, H-1

SUBJECT: 1962 Annual Report on Disposal of Solid Radioactive Waste Material

SYMBOL : General:

1316 Report

This report covers solid radioactive waste materials disposal activities for 1962. No fourth quarter report was made as the data for this period is included in this report.

Information for this report was furnished from Eng-4, Zia Refuse Dept., Zia Janitorial Dept., SP-3 and LA Notebook # 11363. Some of the cost data presented are estimated as there is no very accurate method at present to determine the exact costs. Also, the costs incurred in disposal of out-of-town material is not reported as these charges are made to the originating company.

There were nineteen out-of-town deliveries made during the year. Most of the material was classified and required immediate covering. It could be pointed out that these frequent coverings have used up considerable pit space.

Beta-Gamma Waste Disposal:

Most of this type of waste material has been placed in disposal wells in Area C. Ready-Mix concrete was used in some cases to provide a more permanent seal over the deposited material.

One disposal operation involved considerable planning and effort. The material had been in storage for some time and consisted of solutions of several acids and irradiated uranium. As bottles of the material were delivered to the disposal area they were placed inside of 55 gal. drums in which concrete had previously been poured with formed cavities to hold the bottles. After the bottles were placed in the drums the remainder of the



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Area G:(continued)

The Zia Roads Section started digging Pit #3 on 12/7/62. The pit should be finished about the first of February, 1963. An order has been placed to obtain metal numbered signs to be placed on fence posts along the east side of this pit.

Explanation of attached data:

The attached data sheets present in summary form the estimated costs and volume of waste material. The following is an attempt to explain the derivation of some of the data.

1. Boxes:

A cost figure of 19¢ per box was used. The volume per box is estimated at 0.087 yd³.

2. Drums:

The 55 gallon drums used cost \$7.20 each. Each drum has a volume of 0.368 yd³.

3. Large plastic Bags:

These cost 51¢ each and have a volume of 0.46 Yd³.

4. Small plastic bags:

These cost 14¢ each and have an estimated volume of 0.037 yd³.

5. Masking Tape:

Two inch masking tape costs 64¢ per roll. An estimated 1600 rolls are used per year.

6. Zia Trash pickup:

The charge is estimated by using \$4.00 per hour per man and the time required to complete the job. (continued)

Zia Trash Pickup: (continued)

Whenever the Zia Riggers are used the figure is \$40.00 per hour or \$320.00 per day. Again, the time needed to do the job is also used to determine the total cost.

Dempster Dumpster Pickup:

The Zia Refuse Department logs the total miles required to perform this work. A cost per mile is determined by the Zia Accounting department and this figure times the miles logged equals the total cost.

Zia Janitor Charges:

According to Donn Rice, Zia janitor supervisor, a new figure was used to determine the janitorial charge for the fourth quarter. This figure included a .10¢ per hour raise for janitors and 6% A. and G. charge.

9. H-1 Monitor:
This cost figure remains the same as in 1961 when it was increased over previous year.
10. H-1 Vehicles:
The rental rate per vehicle is \$40.00 per month. The charge includes a one ton truck(#0967) and a $\frac{1}{2}$ ton pickup(#0095)
11. D-7 Bulldozer:
A flat rate of \$150.00 per month is charged for this tractor.
12. Fencing, Area G:
A cost write-off for this fencing is \$151.00 per quarter. As of the end of 1962 a balance of \$3120 remained.
13. Covering Exposed Trash:
This cost includes wages, overhead, equipment charge and maintenance. This charge varies depending on times trash covered.
14. Excavate Pit #2:
The cost write-off rate of \$2257 per quarter is based on an estimated pit life of two years. The balance as of Dec. 1962 is \$2260.
15. Protective Clothing:
This is an estimated charge for protective clothing used during disposal operations and covering of waste material in the pit,

16. Road and Ruin Excavation:

The charge of \$135 per quarter is based on a 20 year write-off rate. The balance as of 12/31/62 equals \$8163.00

17. Radio Rental:

This figure varies per quarter as it is based on a rental charge made by AEC Communications that is re-evaluated every 6 months. For the year 1962 it remained constant at \$51 per quarter.

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Disposal Costs for 1962

	<u>1st Qtr.</u>	<u>2nd Qtr.</u>	<u>3rd Qtr.</u>	<u>4th Qtr.</u>	<u>1962 Totals</u>
1. Boxes	\$1396	\$1210	\$1260	\$1035	\$4901
2. Drums	4572	3737	3384	4399	16092
3. Lg. Pl. Bags	405	410	402	403	1620
4. Sm. Pl. Bags	267	235	206	195	903
5. Masking Tape	256	256	256	256	1024
6. Zia Trash Pickup	3616	1760	1248	1920	8544
7. Dempster Dumpster	3297	2581	1914	2601	10,393
8. Janitor Charge	7535	7535	7535	9292	31,897
9. H-1 Monitor	2625	2625	2625	2625	10,500
10. H-1 Vehicles	240	240	240	240	960
11. Cover Trash	966	532	923	611	3032
12. D-7 Tractor	450	450	450	450	1800
13. Fencing Area G	151	151	151	151	604
14. Road and Ruin Excavation	135	135	135	135	540
15. Excavate Pit #2	2257	2257	2257	2257	9028
16. H-1 Radio Rental	51	51	51	51	204
17. Protective Clothes	50	50	50	50	200
Totals	\$28,269	\$24,215	\$23,087	\$26,671	\$102,242
Trash Volume(yd ³)	2444	1532	1563	1605	7144
Cost/yd ³	\$12	\$16	\$15	\$16	
<u>Comparative Data</u>	<u>Volume(yd³)</u>	<u>Total Cost</u>	<u>Cost/yd³</u>		
1958	3459	\$61,800	\$18		
1959	4838	61,801	\$13		
1960	5777	74,794	\$13		
1961	7170	94,110	\$13		
1962	7144	102,242	\$14		

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<u>Packaging Material</u>	<u>1st. Qtr.</u>	<u>2nd. Qtr.</u>	<u>3rd. Qtr.</u>	<u>4th. Qtr.</u>	<u>1962 Total</u>
1. Boxes	7348	6371	6630	5149	25,798
2. # 55 Gal. Drums	929	624	607	770	2930
3. # Sm Pl. Bags	1908	1676	1470	1391	6445
4. # Lg. Pl. Bags	794	519	788	791	2892
5. Masking Tape(Rolls)	400	400	400	400	1600
6. # 20 Gal. Drums	285				285
7. # 15 Gal. Drums		77	70		147
<u>Trash Volume (yd³)</u>					
1. Boxes	639	554	577	474	2244
2. Drums (55 Gal.)	342	170	165	210	887
3. Sm. Pl. Bags	70	63	54	52	239
4. Lg. Pl. Bags	365	239	362	364	1330
5. Misc. Material	1000	500	400	505	2405
6. 20 Gal. Drums	28				28
7. 15 Gal. Drums		6	5		11
Total (yd ³)	<u>2444</u>	<u>1532</u>	<u>1563</u>	<u>1605</u>	<u>7144</u>
<u>AREA "C" CHARGES</u>					
1. Fencing*	\$97	\$97	\$97	\$97	\$388
2. Hydraulic Jack	25				25
3. Drilled 20 Disp. wells			489		489
4. Access Gate & Road.				1159	1159
Totals	<u>\$122</u>	<u>\$97</u>	<u>\$586</u>	<u>\$1256</u>	<u>\$2061</u>

*Balance as of 12/31/62= \$1163